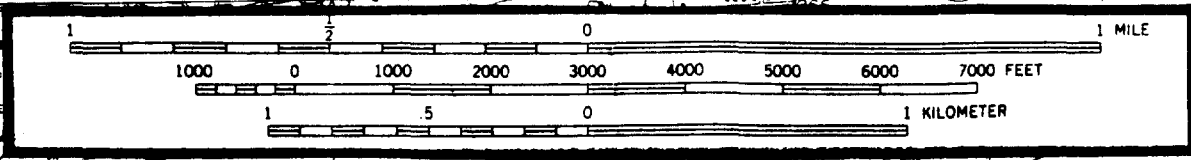


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LANCASTER QUADRANGLE,
PENNSYLVANIA- LANCASTER CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

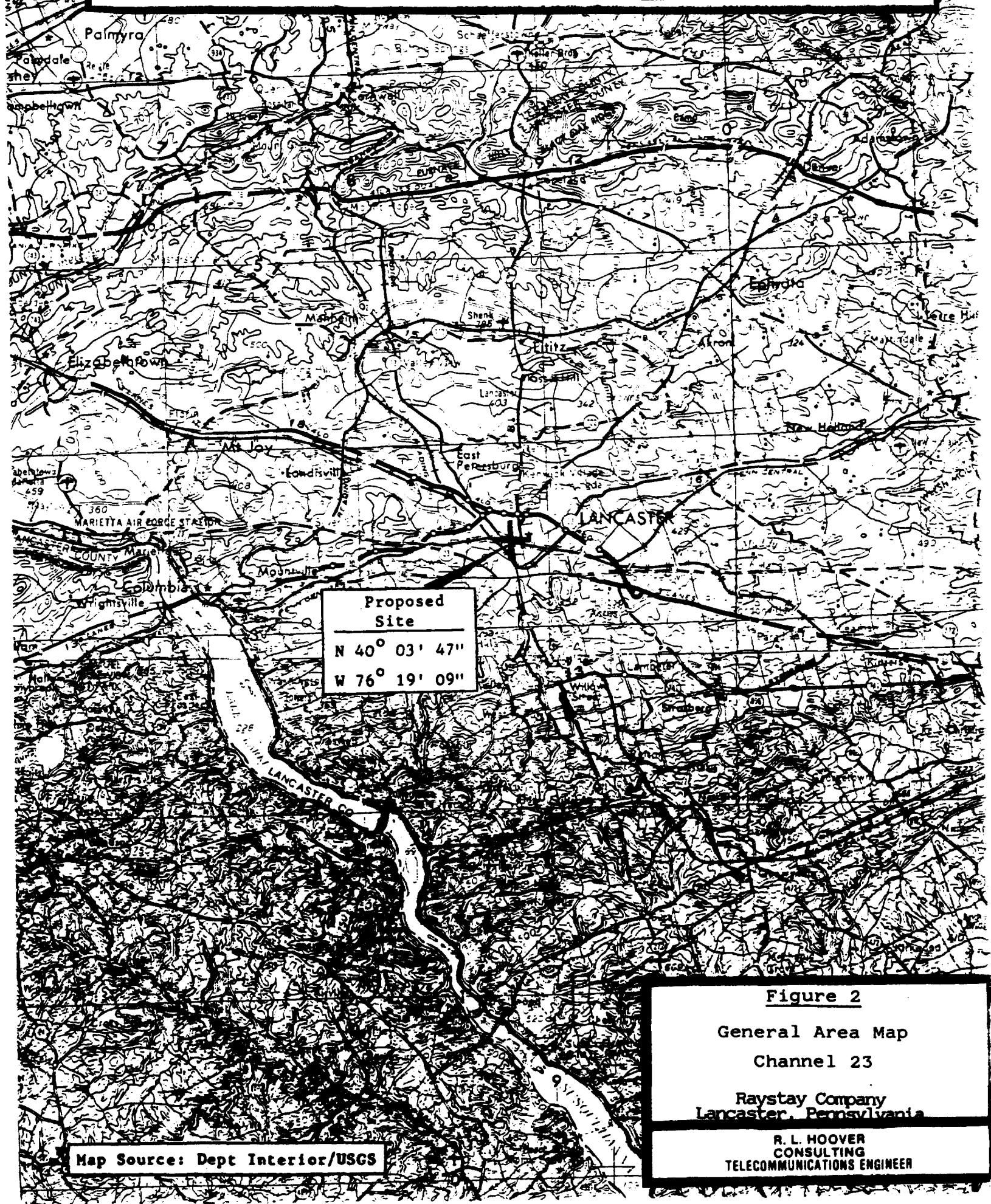
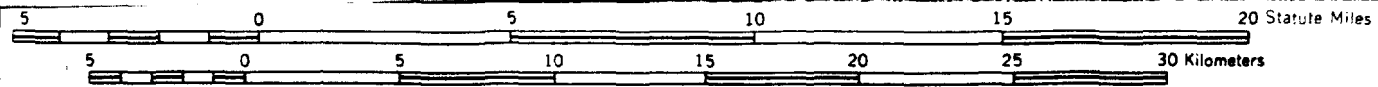




Proposed Site
N 40° 03' 47"
W 76° 19' 09"

Figure 1B
Topographic Map
Showing Proposed Site
Channel 23
Raystay Company
Lancaster, Pennsylvania
R. L. HOOVER
CONSULTING
TELECOMMUNICATIONS ENGINEER

LANCASTER, PA.
40076-A3-TF-024
1956 .
PHOTOREVISED 1987
DMA 5764 III SE-SERIES V83



Proposed
Site
N 40° 03' 47"
W 76° 19' 09"

Figure 2

General Area Map
Channel 23

Raystay Company
Lancaster, Pennsylvania

R. L. HOOVER
CONSULTING
TELECOMMUNICATIONS ENGINEER

Map Source: Dept Interior/USGS

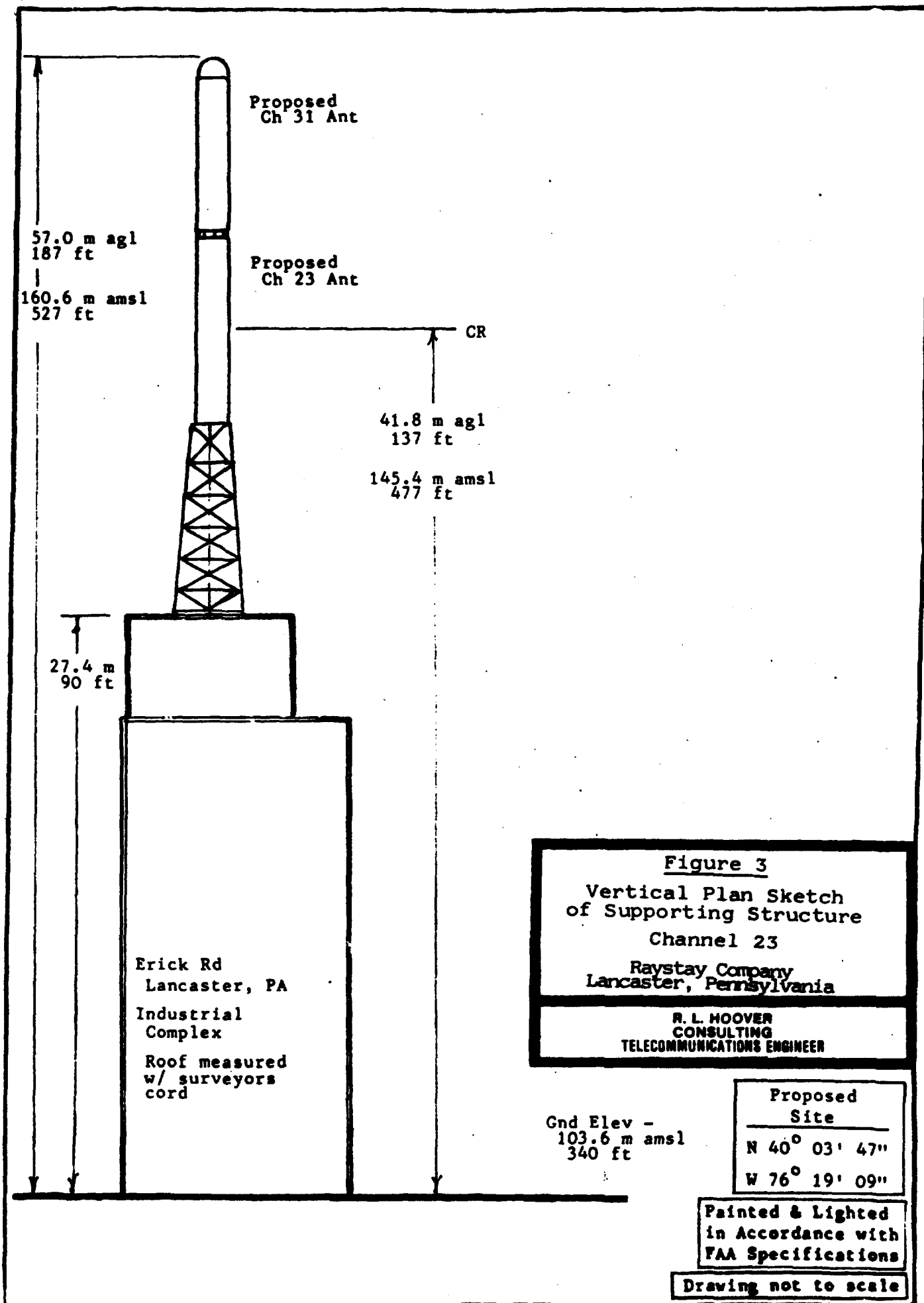


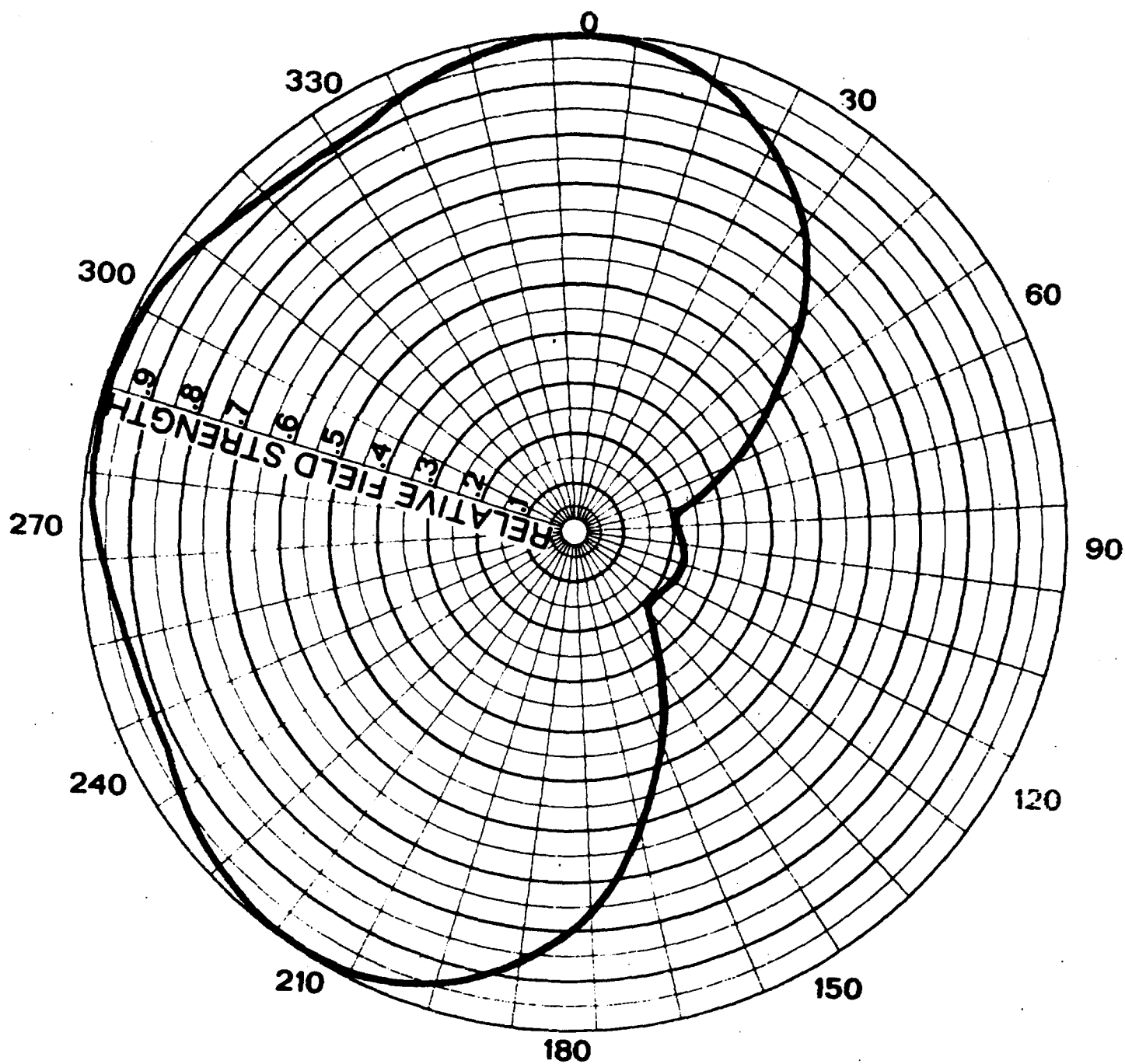
Figure 4

Tabulation of Bogner type B16UA Antenna
Relative Field Strength in the Horizontal Plane
from the Commission's Files

Channel 23

Raystay Company
Lancaster, Pennsylvania

AZIMUTH	TABULATED GAIN	
-----	-----	
0.00	1.000	Main Lobe
10.00	0.970	Oriented at N-286-E
20.00	0.950	
30.00	0.925	
40.00	0.920	
50.00	0.940	
60.00	0.975	
70.00	1.000	
80.00	0.980	
90.00	0.950	
100.00	0.875	
110.00	0.775	
120.00	0.630	
130.00	0.470	
140.00	0.350	
150.00	0.230	
160.00	0.220	
170.00	0.225	
180.00	0.230	
190.00	0.225	
200.00	0.220	
210.00	0.230	
220.00	0.350	
230.00	0.470	
240.00	0.630	
250.00	0.775	
260.00	0.875	
270.00	0.950	
280.00	0.980	
290.00	1.000	
300.00	0.975	
310.00	0.940	
320.00	0.920	
330.00	0.925	
340.00	0.950	
350.00	0.970	

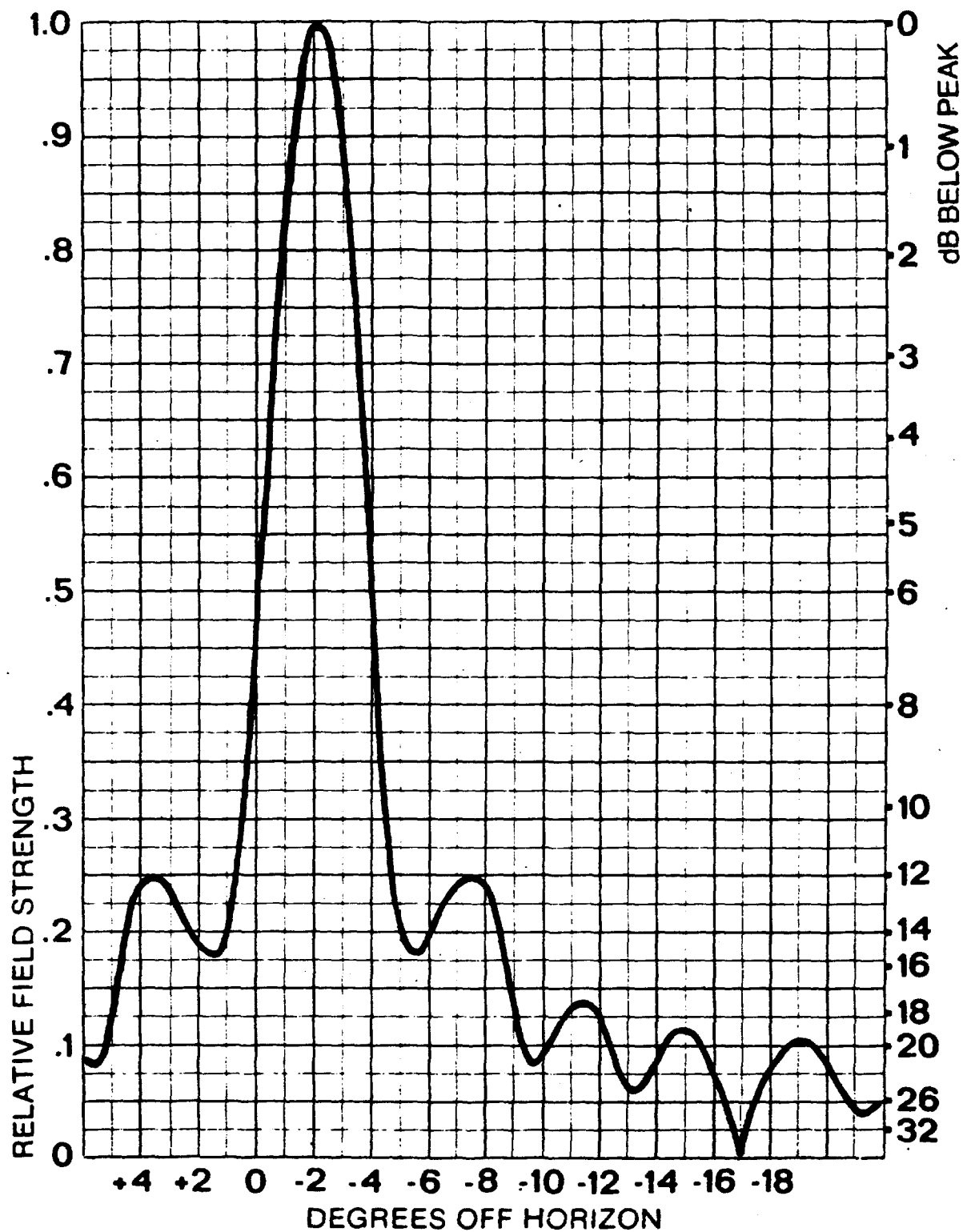


Bogner Broadcast Equipment Corp.
Westbury, N.Y. 11590

Figure 5
Horizontal Plot of
Relative Field from B16UA Ant
Oriented at N-286-E

Channel 23
Raystay Company
Lancaster, Pennsylvania

R. L. HOOVER
CONSULTING
TELECOMMUNICATIONS ENGINEER



Bogner Broadcast Equipment Corp.
Westbury, N.Y. 11590

Figure 6
Vertical Shape Factor
for B16UA Antenna
with -2° Beam Tilt
Channel 23
Raystay Company
Lancaster, Pennsylvania

R. L. HOOVER
CONSULTING
TELECOMMUNICATIONS ENGINEER

2-6-24
COPY

LAW OFFICES
COHEN AND BERFIELD, P.C.

BOARD OF TRADE BUILDING

1129 20TH STREET, N.W.

WASHINGTON, D.C. 20036

(202) 466-8565

TELECOPIER
(202) 785-0934

LEWIS I. COHEN
MORTON L. BERFIELD
ROY W. BOYCE
JOHN J. SCHAUBLE*

*VIRGINIA BAR ONLY

March 9, 1989

HAND DELIVERED

Federal Communications Commission
Low Power Television Window Filing
Strip Commerce Center
28th and Liberty Avenue
Pittsburgh, PA 15222

Dear Gentlemen:

On behalf of Raystay Company, there is submitted herewith on FCC Form 346 an original and two copies of an application for a new low power television station to operate on Channel 55 at Lebanon, PA.

A check in the amount of \$375 for the filing fee is attached hereto.

Should there be any questions concerning this matter, kindly communicate directly with this office.

Very truly yours,

Morton L. Berfield
Morton L. Berfield

Enclosures

APPLICATION FOR AUTHORITY TO CONSTRUCT OR
MAKE CHANGES IN A LOW POWER TV, TV TRANSLATOR OR TV BOOSTER STATION
(Carefully read instructions before filling out form - RETURN ONLY FORM TO FCC)

For Commission Fee Use Only

RECEIVED

MAR 03 1989

FCC

FEE NO:

FEE TYPE:

FEE AMT:

ID SEQ:

For Applicant Fee Use Only

Is a fee submitted with this application? ☒ Yes ☐ No

If No, indicate reason therefor (check one box):

☐ Nonfeeable application

Fee Exempt (See 47 C.F.R. Section 1.1112)

☐ Noncommercial educational licensee

☐ Governmental entity

For Commission Use Only

File No.

SECTION I - GENERAL INFORMATION

1. Name of Applicant Raystay Company	Address P. O. Box 38		
	City Carlisle	State PA	Zip Code 17013
	Telephone No. (include area code) (717) 245-0040		

2. This application is for: (check one box)

☒ Low Power Television

☐ TV Translator

☐ TV Booster

(a) Proposed Channel No. 55	(b) Community to be served: City Lebanon		State PA
--------------------------------	---	--	----------

(c) Check one of the following boxes:

☐ Application for NEW station

☐ MAJOR change in licensed facilities; call sign: _____

☐ MINOR change in licensed facilities; call sign: _____

☐ MAJOR modification of construction permit; call sign: _____

File No. of Construction Permit: _____

☐ MINOR modification of construction permit; call sign: _____

File No. of Construction Permit: _____

☐ AMENDMENT to pending application; Application file number: _____

NOTE: It is not necessary to use this form to amend a previously filed application. Should you do so, however, please submit only Sections I and VII and those other portions of the form that contain the amended information.

SECTION III - LEGAL QUALIFICATIONS

NOTE: Applicants for new stations only:

1. Applicant is (check one of the following):

☐ Individual

☐ General Partnership

☒ Corporation

☐ Other

☐ Limited Partnership

☐ Unincorporated Association

(a) If the applicant is a legal entity other than an individual, partnership, corporation or unincorporated association, describe in an Exhibit the nature of the applicant.

Exhibit No.
N.A.

(b) For LPTV and TV translator applicants only:

If the applicant is an individual, submit as an Exhibit the applicant's name, address and telephone number (including area code).

Exhibit No.
N.A.

If the applicant is a partnership, whether general or limited, submitted as an Exhibit the names, addresses, and telephone numbers (including area code) of all general and limited partners (including silent partners), and the nature and percentage of the ownership interest of each partner.

Exhibit No.
N.A.

If the applicant is a corporation or an unincorporated association, submit as an Exhibit the names, addresses and telephone numbers (including area code) of all officers, directors and other members of the governing board of the corporation or association and the nature and the percentage of their ownership interests in the applicant (including stockholders with interests of 1% or greater).

Exhibit No.
1

2. For LPTV and TV translator applicants only, submit as an Exhibit a list of all other new applications filed during the same window period as this application in which the applicant or any principal of the applicant has any interest. Include the percentage of that interest for each listed application, as well as the other applicant's name (if different) and the channel number and location of the proposed station.

Exhibit No.
2

NOTE: No more than five (5) applications for new low power TV or TV translator stations may be filed during a single window period by any applicant, or by any individual or entity having an interest of 1% or more, in applications filed in the same window period. This limit does not apply to minor or major change applications or to TV booster applications.

CITIZENSHIP AND OTHER STATUTORY REQUIREMENTS

3. (a) Is the applicant in compliance with the provisions of Section 310 of the Communications Act of 1934, as amended, relating to interests of aliens and foreign governments?

☒ Yes ☐ No

(b) Will any funds, credit, or other financial assistance for the construction, purchase or operation of the station(s) be provided by aliens, foreign entities, domestic entities controlled by aliens, or their agents?

☐ Yes ☒ No

If Yes, provide particulars as an Exhibit.

Exhibit No.

4. (a) Has an adverse finding been made, or an adverse final action taken by any court or administrative body as to the applicant or any party to this application in a civil or criminal proceeding brought under the provisions of any law related to the following: any felony; broadcast-related antitrust or unfair competition; criminal fraud or fraud before another governmental unit; or discrimination?

☐ Yes ☒ No

(b) Is there now pending in any court or administrative body any proceeding involving any of the matters referred to in 4(a)?

☐ Yes ☒ No

If the answer to 4(a) or 4(b) is Yes, attach as an Exhibit a full disclosure concerning the persons and matters involved, including an identification of the court or administrative body and the proceeding (by dates and file numbers), a statement of the facts upon which the proceeding was based or the nature of the offense alleged or committed, and a description of the current status or disposition of the matter.

Exhibit No.

SECTION III (Page 2)

5. Has the applicant or any other party to this application had any interest in:

(a) a broadcast application which has been dismissed with prejudice by the Commission?

☐ Yes ☒ No

(b) a broadcast application which has been denied by the Commission?

☐ Yes ☒ No

(c) a broadcast station, the license for which has been revoked?

☐ Yes ☒ No

(d) a broadcast application in any Commission proceeding which left unresolved character issues against the applicant?

☒ Yes ☐ No

If the answer to any of the questions in 5 is Yes, state in an Exhibit the following:

(i) Name of party having interest;

(ii) Nature of interest or connection, giving dates;

(iii) Call letters of stations or file number of application or docket number;

(iv) Location.

Exhibit No.
3

MULTIPLE APPLICATIONS

6. The applicant certifies that there is no other application pending that would be directly mutually exclusive with this application in which this applicant has an interest of one percent or more or in which any party to this application is an officer, director, or has an interest of one percent or more, direct or indirect.

☒ Yes ☐ No

If No, this application cannot be accepted for filing.

REAL PARTY IN INTEREST

7. The applicant certifies that no agreement, either explicit or implicit, has been entered into for the purposes of transferring or assigning to another party, any station construction permit or license or interest therein that is awarded as a result of a random selection or lottery.

☒ Yes ☐ No

If No, this application cannot be accepted for filing.

SECTION IV - PROGRAM SERVICE STATEMENT

NOTE: For Low Power Television applicants only:

Low Power Television stations must offer a broadcast program service; a non-program broadcast service will not be permitted. Therefore, briefly describe below, in narrative form, your planned programming service.

The applicant proposes to broadcast community program service, including entertainment, feature, informational, movies, syndicated and sports programming.

REMINDER: Do not complete the following without reading carefully the definitions and other information set out in the foregoing pages.

CERTIFICATION OF PREFERENCES

MINORITY

1. The applicant certifies that it is entitled to and seeks to claim minority preference.

☐ Yes ☒ No

If yes, complete the following:

Name	Address	Percentage Interest in the applicant	Minority Group
------	---------	---	----------------

DIVERSIFICATION PREFERENCE

2. The applicant certifies that it and/or its owners have no interest, in the aggregate, exceeding 50 percent in any media of mass communications.

☐ Yes ☒ No

If Yes, DO NOT respond to questions 3 and 4.

3. The applicant certifies that it and/or its owners have no interest, in the aggregate, exceeding 50 percent in more than three mass communications media facilities.

☐ Yes ☒ No

4. The applicant certifies that it and/or its owners have no interest, in the aggregate, exceeding 50 percent in a media of mass communications in the same area to be served by the proposed station.

☒ Yes ☐ No

SECTION VI - EQUAL EMPLOYMENT OPPORTUNITY PROGRAM

1. For Low Power TV applicants, will this station employ on a full-time basis five or more persons?

☐ Yes ☒ No

If Yes, the applicant must include an EEO program called for in the separate Broadcast Equal Employment Opportunity Report (FCC Form 396-A).

SECTION VII - CERTIFICATIONS

1. For new station and major change applicants only, the applicant certifies that it has or will comply with the public notice requirement of 47 C.F.R. Section 73.3580(g).

☒ Yes ☐ No

2. For applicants proposing translator rebroadcasts who are not the licensee of the primary station, the applicant certifies that written authority has been obtained from the licensee of the station whose programs are to be retransmitted.

☐ Yes ☐ No

N.A.

Primary station proposed to be rebroadcast:

Call Sign	City	State	Channel No.
-----------	------	-------	-------------

3. The applicant certifies that it has contacted an authorized spokesperson for the owner of the rights to the proposed transmitter site and has obtained reasonable assurance that the site will be available for its use if this application is granted.

☒ Yes ☐ No

That person can be contacted at the following address and telephone number:

Name Barry L. March		Mailing Address or Identification General Manager, Quality Inn	
City Lebanon	State PA	ZIP Code 17042	Telephone No. (include area code) (717) 273-6771

The APPLICANT hereby waives any claim to the use of any particular frequency as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests an authorization in accordance with this application. (See Section 304 of the Communications Act of 1934, as amended.)

The APPLICANT acknowledges that all the statements made in this application and attached exhibits are considered material representations, and that all exhibits are a material part hereof and incorporated herein.

The APPLICANT represents that this application is not filed for the purpose of impeding, obstructing, or delaying determination on any other application with which it may be in conflict.

In accordance with 47 C.F.R. Section 1.65, the APPLICANT has a continuing obligation to advise the Commission, through amendments, or any substantial and significant changes in information furnished.

**WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND IMPRISONMENT.
U.S. CODE, TITLE 18, SECTION 1001.**

I certify that the statements in this application are true, complete and correct to the best of my knowledge and belief, and are made in good faith.

Name of Applicant Raystay Company	Signature <i>David A. Gardner</i>
Title Vice President	Date March 7, 1989

EXHIBIT 1

The officers, directors, and ownership of voting stock in Raystay Company is as follows:

<u>Name</u>	<u>Officers</u>	<u>Percentage of Voting Stock</u>
George F. Gardner	President, Treasurer and Director	50.06%
Estate of Marian B. Gardner, George F. Gardner and David A. Gardner Co-Executors	---	25.55%
David A. Gardner R.D. 1 Landisburg, PA 17040	Vice-President, Secretary, and Director	8.13%
Michael C. Gardner 580 Boxwood Lane Carlisle, PA 17013	---	8.13%
David A. Gardner Trustee For Jon C. Gardner c/o Box 38 Carlisle, PA 17013		8.13%

EXHIBIT 2

Raystay Company is filing the following five low power television applications in the window period ending March 10, 1989.

<u>Location of Proposed Station</u>	<u>Channel Number</u>
Red Lion, PA	56
Lebanon, PA	55
Lebanon, PA	38
Lancaster, PA	23
Lancaster, PA	31

EXHIBIT 3

Mr. George F. Gardner, President, Director and principal stockholder in Raystay company, is the President, Director, and sole stockholder in Adwave Company (Adwave), applicant for construction permit for a new FM broadcast station at Fort Lauderdale, Florida (MM Docket No. 84-1113, File No. BPH-830510AL). In a Partial Initial Decision of Administrative Law Judge Joseph Stirmer (FCC 870-20) released June 4, 1987, a misrepresentation/lack of candor issue was decided adversely to Adwave. The Commission had previously directed that all appeals in such cases involving applicants seeking licenses held by RKO General, Inc., be stayed, but has recently set March 16, 1989, as the date for filing of exceptions to such Partial Initial Decisions. Accordingly, Adwave will timely file with the Review Board its appeal of the Partial Initial Decision.

ENGINEERING STATEMENT IN SUPPORT OF AN
APPLICATION FOR A
CONSTRUCTION PERMIT FOR A
NEW LOW POWER TELEVISION STATION
ON CHANNEL 55 IN LEBANON, PENNSYLVANIA

On Behalf of
RAYSTAY COMPANY

EE-1

February 24th, 1989

ENGINEERING STATEMENT IN SUPPORT OF
AN APPLICATION FOR A
CONSTRUCTION PERMIT FOR A
NEW LOW POWER TELEVISION STATION IN
LEBANON, PENNSYLVANIA

On behalf of
RAYSTAY COMPANY

EE-1

Index:

1. Declaration of Engineer
2. FCC Form 346, Section II
3. Narrative Statement
4. Fig. 1A, Topographic Map of Proposed Site
5. Fig. 1B, Section of Topographic Map
6. Fig. 2, General Area Map
7. Fig. 3, Vertical Plan Sketch of Proposed
Antenna & Supporting Structure
8. Fig. 4, Tabulation of Bogner type B16UA Relative Field Strength
9. Fig. 5, Horizontal Plot of Ant Relative Field Strength
Oriented at N-153.6-E
10. Fig. 6, Vertical Plane Shape Factor for B16UA Antenna
with -2 Degrees Beam Tilt

ENGINEERING STATEMENT IN SUPPORT OF AN
APPLICATION FOR A
CONSTRUCTION PERMIT FOR A
NEW LOW POWER TELEVISION STATION IN
LEBANON, PENNSYLVANIA
On behalf of
RAYSTAY COMPANY

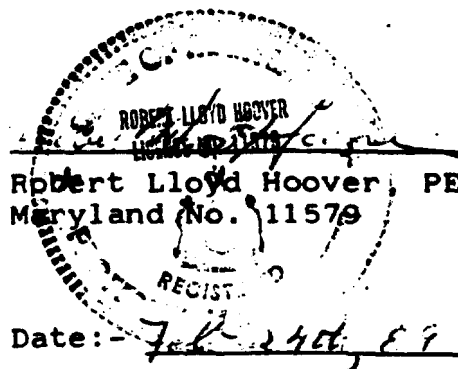
EE-1

DECLARATION

Robert Lloyd Hoover declares and states that he is a Registered Professional Engineer in the State of Maryland and seven other states. He further states that he has been in broadcast engineering since 1948 to date.

He states that he has been retained by Raystay Company for the purpose of preparing an application for a Construction Permit for a new Low Power Television Station on Channel 55 in Lebanon, Pennsylvania.

He further states that the calculations, exhibits and measurements reported herein were made by him personally or under his supervision and all facts contained herein are true of his own knowledge, except where stated to be on information or belief, and as to those facts, he believes them to be true. I declare under penalty of perjury that the foregoing is true and correct.


Robert Lloyd Hoover, PE
Maryland No. 11579
Date: Feb 24th 89

SECTION 11 - ENGINEERING DATA AND ANTENNA AND SITE INFORMATION

1. Facilities requested:

Output Channel No.	Transmitter Rated Power Output	Proposed Community(ies) to be served	
55	1.0 kilowatts	City Lebanon	State PA

Frequency Offset (check one)

☐ No offset
 ☒ Zero offset
 ☐ Plus offset
 ☐ Minus offset

Translator Input Channel No. n/a

2. Proposed transmitting antenna location:

City Lebanon	State PA	County Lebanon
Address or other description of location: 625 Quentin Rd Lebanon, PA		Geographical coordinates of transmitting antenna to nearest second North Latitude 40° 19' 49" West Longitude 76° 25' 37"

Attach as an Exhibit a map or maps (preferably topographic, if obtainable, such as Geological Survey quadrangles) of the area of the proposed transmitting antenna location shown drawn thereon the following data:

Exhibit No.
EE-1

- Scale of kilometers
- Proposed transmitting antenna location accurately plotted.

3. Transmitter:	Make Acrodyne	Type No. TLU/1KACT	Output Power P 1.0 kilowatts
4. Transmission line:	Andrew	LDF7-50A	Length 120 ft Rated efficiency E for length given (decimal fraction) 0.83

5. Transmitting antenna ☒ Directional "off-the-shelf" ☐ Directional Composite (Multiple Antennas) ☐ Non-Directional

Manufacturer Bogner		Model B16UA		Description ¹ Slot antenna
Orientation of main lobe ² Oriented: 153.6° Lobes at: 153.6° 223.6° & 83.6°	Overall antenna structure height above ground ³ 48.1 meters	Elevation of Site ⁴ 143.3 meters	Power gain G (multiplier) in the horizontal lobe of maximum radiation relative to a halfwave dipole ⁵ $G_{horz} = 32 \times (0.5)^2 = 8$ -2 deg beam tilt	

Effective radiated power (ERP) (ERP=P X E X G) 6.64 kilowatts
 Height of antenna radiation center above ground 43.9 meters
 Height of antenna radiation center above above mean sea level 144 ft
187.2 meters ⁶
614 ft

1 Give basic type using general descriptive terms such as half-wave dipole, "bow-tie" with screen, corner reflector, 10 element Yagi, 4 element in-phase array, two stacked 5 element Yagis, etc.

2 For directional antennas in the horizontal plane show the direction of the main radiation lobe(s) in degrees with respect to true north in a 360 degree horizontal azimuth, numbered clockwise, with true north as zero azimuth.

3 Show overall height above ground in meters to topmost portion of structure, including highest top mounted antenna and beacon if any.

4 Show the ground elevation above mean sea level in meters at the base of the transmitting antenna supporting structure.

5 Give the actual power gain toward the radio horizon.

6 This is equal to the sum of the site elevation and the height of the antenna radiation center above ground.

6. Attach as an Exhibit a vertical plan sketch for the proposed total antenna structure, including supporting structure, giving overall height of structure in meters above ground, including lighting beacon (if any).

Exhibit No.
EE-1

7. Will the proposed antenna supporting structure be shared with an AM radio station?

☐ Yes ☒ No

If yes, list the call sign of that station. _____

8. Attach as an Exhibit a polar diagram of the radiation pattern (relative field) in the horizontal plane of the transmitting antenna showing clearly the correct relationship between the major lobe or lobes and the minor lobes of radiation and a tabulation of the pattern at every ten degrees and all maxima and minima. Applicants proposing use of multiple transmitting antennas shall submit a composite radiation pattern. If a non-directional transmitting antenna will be employed, i.e., an antenna with an approximately circular radiation pattern, check here ☐ and omit polar diagram and tabulation. If the antenna manufacturer and model number are on the Commission's list of common "off-the-shelf" directional antennas, check here ☒ and omit polar diagram and tabulation. **Provided for reference**

Exhibit No.
EE-1

9. Has FAA been notified of proposed construction?

☒ Yes ☐ No

If Yes, give date and office where notice was filed:

Feb 24th, 89, Eastern Regional
Office

10. Environmental Statement (See 47 C.F.R. Section 1.1301 et seq.)

Would a Commission grant of this application come within 47 C.F.R. 1.1307, such that it may have a significant environmental impact, including exposure to workers or the general public to harmful nonionizing radiation levels?

☐ Yes ☒ No

If you answer Yes, submit as an Exhibit an Environmental Assessment as required by Section 1.1311. If no, explain briefly why not. **See Exhibit EE-1**

Exhibit No.
-

11. Unattended operation:

Is unattended operation proposed?

☒ Yes ☐ No

If Yes, and this application is for authority to construct a new station or to make changes in the facilities of an authorized station which proposes unattended operation for the first time, applicant will comply with the requirements of 47 C.F.R. Section 74.734 concerning unattended operation.

☒ Yes ☐ No

12. Is type approved broadcast equipment being specified?

☒ Yes ☐ No

If No, indicate date equipment was submitted to FCC Laboratory for approval. _____

I certify that I represent the applicant in the capacity indicated below and that I have examined the foregoing statement of technical information and that it is true to the best of my knowledge and belief.

February 24th, 1989

Date

Signature

Robert Lloyd Hoover

Typed or Printed Name

Robert Lloyd Hoover, PE

Telephone No. (include area code)

(301) 983-0054

☐ Technical Director

☒ Registered Professional Engineer

☒ Consulting Engineer

☐ Chief Operator

☐ Other (specify)

ENGINEERING STATEMENT IN SUPPORT OF AN
APPLICATION FOR A
CONSTRUCTION PERMIT FOR A
NEW LOW POWER TELEVISION STATION IN
LEBANON, PENNSYLVANIA
On behalf of
RAYSTAY COMPANY

EE-1

I. GENERAL

This engineering statement has been prepared on behalf of Raystay Company. The purpose of this statement is to request a Construction Permit for a new Low Power Television Station on Channel 55 in Lebanon, Pennsylvania. This is one of five applications being filed by Raystay Company in Pennsylvania.

The applicant proposes to operate on Channel 55 with a directional antenna system having a maximum Effective Radiated Power of 6.64 kW in the horizontal plane. An electrical beam tilt of -2 degrees is proposed for the antenna. The applicant proposes to operate with a precise Zero Offset Carrier Frequency.

This application is not a major environmental hazard, as defined by Section 1.1305 of the Rules. The proposed operation is in compliance with the safety standards specified in Section 1.1307(b), that is, the exposure of the general public and workers to the ANSI C95.1 1982 exposure guidelines.

Answers to questions in the Form 346 are provided in the attached statement.

II. PROPOSED OPERATION

A. Proposed location

The proposed site would be at 625 Quentin Road, Lebanon, Pennsylvania. The geographical co-ordinates of the proposed site are:

N 40° 19' 49" ,
W 76° 25' 37" .

A topographic map showing the proposed site is provided in Figure 1A and the applicable section of that topographic map is provided in Figure 1B. A general area map of the area is shown in Figure 2.

Inasmuch as the overall height of the proposed antenna and its supporting structure would be 48.1 meters (158

feet) agl, the FAA Eastern Regional Office was notified.

B. Proposed Antenna System & Supporting Structure

The applicant proposes to mount a Bogner type B16UA antenna on top of another proposed Bogner type B16UA for Channel 38, where both antennas would be supported by a 30-ft (9.1 m) pedestal. The antenna and its supporting structure would be constructed on the roof of a building. The building roof is 72 feet (21.9 meters) agl, which was recently measured with a surveyors cord. The Center of Radiation would be 43.9 meters (144 feet) agl or 187.2 meters (614 feet) amsl. A vertical plan sketch of the proposed antenna and its supporting structure is shown in Figure 3.

The applicant proposes to use a Bogner type B16UA antenna oriented at N-153.6-E where its main lobes are in this direction as well as N-223.6-E and N-83.6-E. The antenna is specified to have a -2 degree beam tilt.

For a -2 degree beam tilt the B16UA antenna Vertical Plane (Shape or Form) Pattern has a relative field strength value of 0.5 in the horizon compared to a maximum value of unity or one at the depression angle of -2 degrees. The Antenna Power Gain in the horizontal plane is 0.25 of that value at the depression angle. That is, multiplying the square of the Vertical Plane (Shape) Pattern value in the horizon times the maximum Power Gain of the Antenna in its depression angle results in a Power Gain in the horizontal plane of 8, viz,

$$G_{\text{at horz}} = (0.5)^2 \times 32 = 8$$

The vendor warrants that the Vertical Plane (Shape) Pattern holds in all azimuthal directions; therefore, the ERP in the horizontal plane in all azimuthal directions is equal to or less than 6.64 kW.

C. Operational Specifications

It is proposed to install an Acrodyne type TLU/1KACT LPTV transmitter that is rated to deliver 1000 peak watts into a dummy load. The transmitter is type accepted for Part 74 of the Rules. The transmitter will be specified to maintain a precise frequency offset of ± 1 kHz at a specified designation of Zero Carrier Offset from the standard carrier frequency on Channel 55. The Bogner LPTV type B16UA antenna with a -2 degrees beam tilt provides a power gain of 8 above that of a dipole (9 dBd) in the horizontal plane. The antenna would be oriented at N-153.6-E, where the main lobes would also point in this direction and N-223.6-E and N-83.6-E. A tabulation

of the relative field strength in the horizontal plane is provided in Figure 4, and a horizontal plot of these data is shown in Figure 5. The proposed transmission line would be Andrew type LDF7-50A, which has an attenuation of approximately 0.674 dB per 100 feet at the visual carrier frequency of 717.25 MHz. The efficiency for the proposed 120-ft length of cable is approximately 83 percent. For 1-kW Transmitter Power Output with a line efficiency of 83 percent and antenna power gain of 8, the Effective Rated Power would be 6.64 kW.

D. Proposed Coverage

Inasmuch as the proposed site is within the Lebanon city limits, the 74-dBu contour will provide coverage over all of Lebanon and its immediate vicinity.

III. ENVIRONMENTAL CONSIDERATION

No significant environmental impact would result due to the Commission granting this applicant.

A. Environmental Impact Statement

The applicant proposes to mount its Channel 55 antenna on top of a Channel 38 antenna, where the two antennas would be supported by a 30-ft (9.15 m) tower on the roof of a building. The applicant is also applying for an LPTV Station on Channel 38 in Lebanon. Such construction would be not be a Major Action.

This application would not come within Section 1.1307 of the Rules. The applicant does not propose to use high intensity lighting. No environmental impact is involved since the proposed site is not in an area that would constitute an environmental impact since it is not located in any known wilderness and/or wildlife areas, historic and/or scenic areas and will not involve extensive changes to the existing terrain features. No known migratory bird or animal path would be blocked by mounting the proposed Channel 55 and Channel 38 LPTV antennas on a 30 ft (9.15-m) tower on a building roof in downtown Lebanon.

B. National Environmental Policy Act of 1969

This application will not result in radiofrequency radiation in excess of the applicable safety standards specified in Section 1.1307(b), that is, the exposure of workers and the general public would be based upon the recent ANSI C95.1 1982 exposure guidelines.

In the UHF TV Band the ANSI standard would limit exposure to human beings to less than $f/300 \text{ mW/cm}^2$, where f is frequency in megahertz. For Channel 55 the ANSI Radio Frequency Protection guideline would be less than 2.39 mW/cm^2 . Measurements on UHF TV antennas after prediction verify that as a least upper bound the Power Density, PD, would be

$$PD = \frac{EIRP}{40\pi r^2} \quad \text{mW/cm,}$$

where EIRP is the Effective Isotropic Radiated Power in watts and r is the appropriate slant distance from the antenna radiation center in meters, for example, to head height or 7 feet (2.13 meters) above the level of the building roof. During normal programming the EIRP is approximately equal to 0.4 times the visual effective radiated power plus the aural effective radiated power times 1.64, where consideration would be given to the square of the Vertical Plane shape or form factor for the antenna, $f(\phi)$, viz,

$$EIRP \sim (1.64)[(0.4)ERP_{vis} + ERP_{aur}] f^2(\phi)$$

EPA guidelines suggest a reflection co-efficient of 1.6 be adopted. Using this EPA guideline, an EPA value for the Power Density, PD, adjusted for such a reflection co-efficient would be

$$PD' = (1.6)^2 PD$$

The minimum distance from the Center of Radiation at head height above roof level would be (72-7) feet or 65 feet. The far-field region of a high gain UHF antenna does not obtain for approximately 1500 feet from the antenna. On the roof in the vicinity of the antenna, near-field theory applies. A cautious approach in such a near-field region would be to assume a Vertical Plane Shape factor of 0.25 albeit with a fixed slant range of 65 feet. In addition, the far-field EIRP value is assumed. This latter assumption presumes that the antenna has provided its full gain even in the near-field region. With these assumptions an EPA adjusted Power Density, PD' , becomes at head height at any place on the roof,

$$PD' = 5.32 \times 10^{-6} [(0.4)ERP_{vis} + ERP_{aur}] \text{ mW/cm}^2, \quad \text{on Channel 55.}$$

For a visual ERP of 26,560 watts and aural ERP of 2656 watts (that actually would not obtain until the far-field region in the main beam at the depression angle of -2 degrees), the EPA adjusted Power Density, PD' , becomes